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A NEW SPECIES OF *PSILOTUS* FISCHER VON WALDHEIM (COLEOPTERA: NITIDULIDAE: NITIDULINAE) FROM PERU, WITH NEW DISTRIBUTION RECORDS FOR OTHER *PSILOTUS* SPECIES

ANDREW R. CLINE

Louisiana State Arthropod Museum, Department of Entomology, Louisiana State University Agricultural Center, Baton Rouge, LA 70803-1710, U.S.A. (e-mail: acline2@lsu.edu)

Abstract.—*Psilotus* is an endemic Neotropical genus of Nitidulidae occurring from Mexico and Trinidad to Argentina, Bolivia, and southeastern Brazil. These dorsoventrally flattened beetles are typically found in subcortical habitats. The addition of ***Psilotus bicolor,* new species**, brings the total number of species to 11. A thorough description, diagnosis, and habitus photograph are provided for easy identification. Comments are given on male mandibular morphology, and new distribution records for *P. atratus* Reitter, *P. carbonicus* Erichson, *P. cornutus* (F.), *P. germaini* Grouvelle, and *P. ventralis* Erichson are provided.

Key Words: Coleoptera, Nitidulidae, Neotropical, *Psilotus,* sap beetle

The genus *Psilotus* (Fischer von Waldheim 1829) is a member of the subfamily Nitidulinae, the most diverse nitidulid subfamily in number of constituent genera (>115 worldwide) and modes of life (i.e., anthophily, herbivory, fungivory, predation, saprophagy, necrophagy, and inquilinism with social Hymenoptera). Of these varied feeding behaviors, fungivory, whether obligate or facultative, is by far the most dominant, occurring in more than half of the nitiduline genera. Some nitiduline genera are specialists on particular fungal lineages such as *Pocadius* Erichson on puffballs and their kin (Lycoperdaceae), *Thalycra* Erichson on hypogeous fungi such as truffles (Tuberaceae), and *Psilopyga* LeConte on stinkhorns (Phallaceae), whereas others are more general fungivores such as *Pallodes* Erichson, *Camptodes* Erichson, and *Cyllodes* Erichson (Donisthorpe 1935, Fogel and Peck 1975, Kirejtshuk and Leschen 1998, Leschen 1999). Members of *Psilotus* are found under bark and can be collected by fogging fungus covered logs, and using flight intercept traps and blacklights. I have also collected specimens in palm sheaths, where *P. atratus* Reitter was observed feeding directly on a black sooty mold under a rotting palm leaf sheath (*Iriartea deltoidea* Ruiz & Pav.) in southern Costa Rica.

Psilotus is one of only a few nitiduline taxa that exhibit extreme sexual dimorphism in mandible structure. The male mandibles are often as long as or longer than the length of the head with proliferation of the median tooth into a robust elongate process in some species and a flattened keel-like structure in others. Through direct observations, male mandibular morphology was shown to be species specific with little variation expressed across broad geographic areas. My current research is exploring the morphometrics and three-dimensional structure of male mandibles as well as other external features to provide a natural clas-

sification of the genus. The description of *Psilotus bicolor* is a first step in understanding this nitiduline genus and provides a framework for assessing its phylogenetic position within the Nitidulinae.

Material and Methods

Approximately 1000 specimens of *Psilotus* were examined from the following: American Museum of Natural History (AMNH), The Natural History Museum, London (BMNH), Canadian Museum of Nature (CMN), Field Museum of Natural History (FMNH), Florida State Collection of Arthropods (FSCA), Instituto Nacional de Biodiversidad de Costa Rica (INBio), Louisiana State Arthropod Museum (LSAM), and the National Museum of Natural History, Smithsonian Institution (USNM), and the Andrew R. Cline pers. coll. (ARCC) currently housed at the Louisiana State Arthropod Museum.

Label data were recorded from specimens bearing new distribution records. In the records below, a ";" denotes a line break in a label, and a "/" separates more than one label if present. All dissections were made with customized minuten pin tools and fine tip forceps under a WILD® Heerbrugg dissecting microscope. Genitalia were promptly placed on a glycerin slide mount and illustrated at 100× using a camera lucida attached to an Olympus® BX50 compound microscope. Measurements were made with a calibrated ocular micrometer. Total length is here defined as the distance from the center of the apical border of the pronotum to the elytral apex, width is the distance across the middle of the pronotum, and depth is equal to the distance from the elytral humeri to the metasternum when viewed laterally. Head width to length ratio is defined as the distance from the outer angles of the temples to the distance from the tips of the labrum to the posterior margin of the head. Pronotum width to length ratio is the distance between to middle of the lateral margins to the distance from the middle of the anterior margin to the middle of the posterior margin. Elytral width to length ratio is the distance between the latero-basal corners to the distance from the scutellar apex of the elytra to the elytral apex.

Fig. 1. Dorsal habitus of *Psilotus bicolor*.

Psilotus bicolor Cline, new species

(Figs. 1–6)

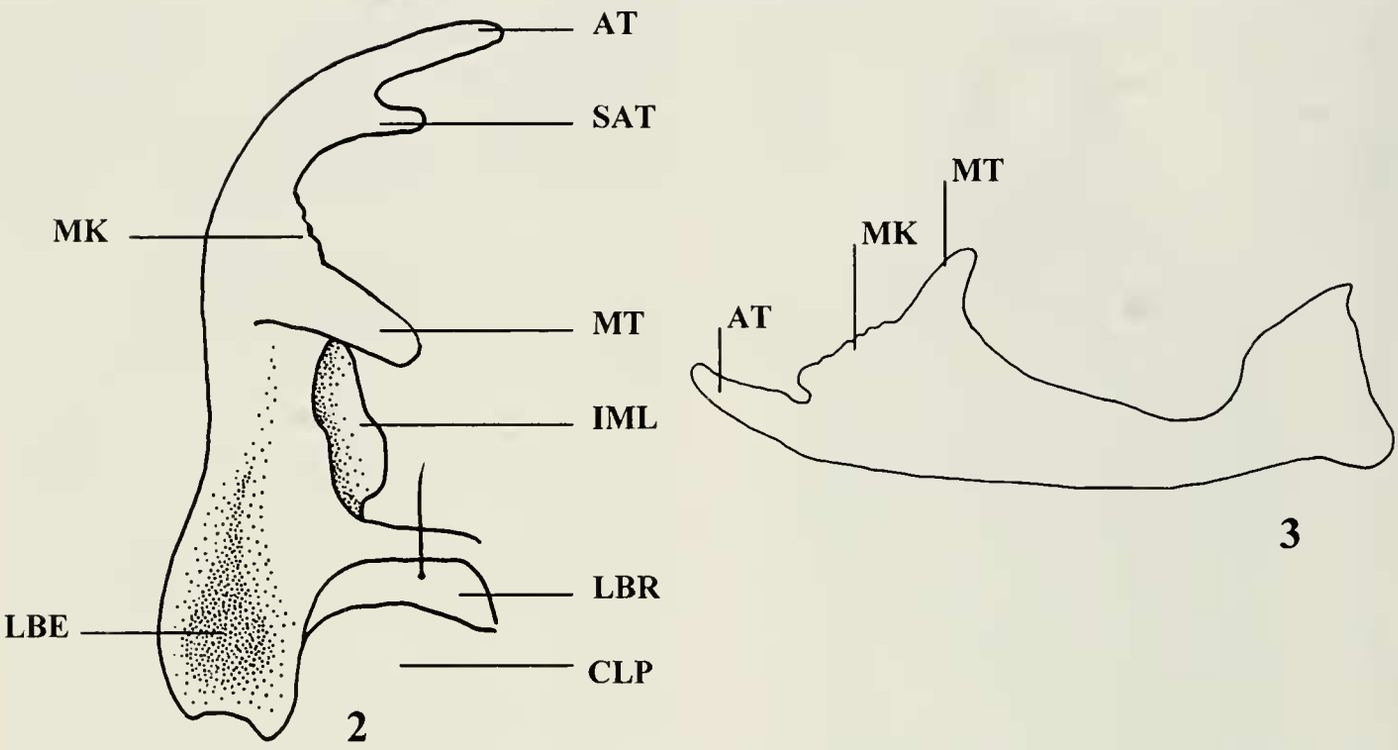
Holotype.—Male, with the following data labels: Peru: Dept. Huanuco, 2500 m., Chinchao, 25 km. Below Carpish, Sept. 10, 1946, F. Woytkowski/HOLOTYPE; *Psilotus*; *bicolor*; A.R. Cline det. 2003. Deposited in AMNH.

Description of holotype (Fig. 1).—Length: 8.5 mm, width: 4.1 mm, depth: 1.2 mm. Body flattened, elongate oval, shining, and distinctly bicolored. Head, pronotum, scutellum, and underside reddish orange, underside more dull than pronotum and

head. Elytra griseous with metallic blue sheen, elytral margins and suture reddish. Mandibles exceedingly large and ornate, longer than length of head. Head large and transverse with relatively small eyes. Pronotum wide, more than two times wider than long, wider than elytra. Elytra slightly longer than combined width, distinctly costate and serially punctate, tips ending in dehiscent subapical apex.

Head: Large, transverse, width: length = 2.1:1.0. Temples produced laterally into sharp points that extend beyond lateral edge of eye. Lobes over antennal insertions only slightly produced. Occipital line faintly visible along medial ⅔ of head. Clypeus moderately prolonged anteriorly. Labrum distinctly bilobed with median incision deep, approaching clypeal border. Each labral lobe with a long stiff anteriorly projecting seta arising from anterior-medial region of the lobe. Mandibles greatly prolonged anteriorly, longer than length of head, two prominent teeth at apex, subapical tooth about ½ length of apical tooth (Fig. 2). Inner medial tooth (IMT) produced, subequal in size to apical tooth (AT). Broadly crenulate median keel (MK) extending from anterior base of inner median tooth to just before base of subapical tooth (SAT) (Fig. 3). Lateral mandible base broadly excavate (LBE) from base to ⅔ length of mandible. Inner edge of mandible with narrow flattened border. Mentum broad, posterior margin truncate, lateral margins evenly arcuate, anterior margin sinuate with distinct median projection. Maxillary palpus filiform, terminal segment as long as preceding segments combined, apex acute. Maxillary palpus with deep evenly arcuate groove for their reception along the ventro-lateral region of the head. Labial palpus filiform with terminal segment obtuse in apical third with almost truncate apex. Gula large and robust with somewhat swollen bulbous posterio-medial region. Mentum, submentum, and lateral region of the gula distinctly punctate. Punctures large, equal to large punctures on vertex, interspaces from ½–1 diameter apart, mentum and submentum alutaceous but gula with reticulation present. Medial region of gula with a few scattered small punctures, interspaces smooth to alutaceous. Antennal grooves deep, somewhat short, and distinctly convergent. Antenna eleven-segmented, slightly shorter than length of head. Scape large, longer than wide, convex anteriorly and slightly concave posteriorly, total length approximately 2.2 times as long as pedicel. Pedicel with narrow tapering base, becoming swollen apically. Antennomeres 3–5 similar in shape to pedicel but each individually longer than pedicel. Antennomeres 6 and 7 similar in size and shape to pedicel but with distinct laterally projecting setae. Antennomere 8 more robust, and wider than preceding two segments, with laterally projecting setae. Antennal club 3-segmented, somewhat loose, densely setose, elongate oval, equal in length to segments 3–5 combined. Antennomere 9 broadly triangular, widest at apex. Antennomere 10 slightly narrower than segment 9, and chevron-shaped. Terminal antennomere somewhat hexagonal with lateral sides broadly rounded. Each club segment with several long projecting setae. Head surface with large deep medial impression extending between antennal lobes and from clypeal region to middle of vertex, broadly triangular. Surface of impression and clypeal region with large irregular shallow punctures, interspaces ¼–½ diameter apart, alutaceous with some microreticulation. Anterior region of clypeus and rest of vertex with small scattered punctures, approximately ⅓–¼ diameter of large punctures, interspaces alutaceous and between 4–5 diameters apart becoming diffusely separated along occipital region of head.

Thorax: Pronotum large, transverse, width: length 2.5:1.0. Anterior margin trapezoidal with the median region somewhat convex. Anterior and posterior angles acutely rounded. Posterior margin with broad indentations in lateral ⅓, median ⅓ nearly truncate. Pronotum nearly glabrous



Figs. 2–3. Mandible of *Psilotus bicolor*. 2, Dorsal view of mandibles, 3, Lateral view of mandibles. Abbreviations: AT, apical tooth; CLP, clypeus; IML, inner medial ledge; LBE, lateral basal excavation; LBR, labrum; MK, medial keel; MT, medial tooth; SAT, subapical tooth.

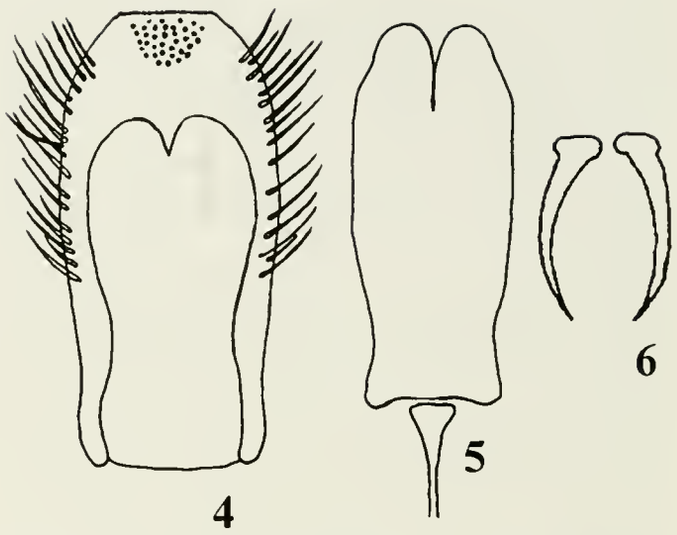
with no elaboration of punctures except for diffuse small irregular punctures near anterior margin, punctures similar in size to small punctures on head, interspaces smooth. Pronotal disc entirely glabrous. Pronotal and elytral lateral margins not smooth, broadly crenulate with raised regions obsoletely curved posteriorly. Prosternal process narrow between procoxae, greatly expanded behind coxae with broadly convex apical margin. Prosternum with few scattered small punctures primarily anterior and lateral, interspaces with transverse reticulation. Prosternal process with shallow indistinct punctures, equal in size to those on lateral margin of gula, interspaces alutaceous and approximately ½ diameter apart. Scutellum shaped like an obtuse triangle with apex broadly rounded, with small punctures, equal in size to those on pronotum and head, interspaces alutaceous and 2–3 diameters apart. Mesosternum bulbous medially, posterior margin broadly rounded, anterior margin occluded by prosternal process. Mesocoxal lines strongly divergent posteriorly from coxae. Mesosternum with similar punctation as prosternal process but more diffusedly spaced, interspaces alutaceous with faint microreticulation. Metasternum strongly transverse, medial line extending from posterior margin to ⅔ length of structure, anterior margin protruding anteriorly almost to anterior margin of mesocoxae. Metacoxal lines strongly diverging posteriorly from coxal cavities. Metasternum with scattered small punctures similar in size to small punctures on head, interspaces 2–10 diameters apart and smooth to alutaceous.

Abdomen: Sternite 1 as long as sternites 2 and 3 combined, abdominal process extending anteriorly to near level of metacoxae. Sternites 2–4 subequal in length. Sternites 1–3 with similar punctation as metasternum. Sternites 4 and 5 as well as hypopygidium with short golden setae arising from small punctures, punctures more closely spaced, interspaces 2–3 diameters apart. Hypopygidium broadly triangular with a somewhat prolonged acute apex, densely fimbriate along apical border.

Elytron: Entire, completely covering the pygidium, broad, widest at middle, width: length = 1.0:1.2. Anterior border feebly

bisinuate, lateral border rounded and widest at anterior third, apex dehiscent. Elytral humeri moderately produced. Lateral explanation of elytra broad, equal to ¼ total elytral width. Eight rows of longitudinal costae present on each elytron, extending from base to apex. Each elytron with eight distinct longitudinal costae, each costa with a row of small fine punctures, equal in size to those on head and pronotum, extending to elytral apex. Intercostal regions with a single row of longitudinal large regular punctures, each bearing a short stiff gray seta. Punctures round, equal to 1.5 times width of large punctures on head, interspaces alutaceous with some faint microreticulation. Lateral explanation of elytra with diffuse irregular punctation. Punctures small, equal to size of small punctures on head, interspaces 5–10 diameters apart and alutaceous with some faint microreticulation.

Legs: Femora of normal shape, elongate, widest at middle, profemur larger than other femora. Protibia finely crenulate along lateral edge. Lateral margin terminating apically into a laterally projecting process. Apical border with multiple small protuberances and small flattened teeth, anterior apical edge with several small short spines, inner apical margin with one small spine projecting downward, spine equal in size to lateral process. Meso- and metatibiae well armored. Mesotibia with medial edge with numerous short spines in apical ½. Lateral edge with numerous dense spines along entire edge. Spines also present in a longitudinal row on ventral surface projecting posterio-laterally. Inner apical spine similar in length to that on protibia. Metatibia with armature similar to that as mesotibia except for an additional row of longitudinal spines near medial edge on ventral surface. Tarsomeres 1–3 deeply bilobed with dense setose pad beneath. Tarsomere 4 small and completely obscured ventrally. Terminal tarsomere elongate, longer than preceding tarsomeres combined. Claws simple with bisetose empodium.



Figs. 4–6. Male genitalia of *Psilotus bicolor*. 4. Ventral view of the tegmen spiculum gastrale (100×); 5, ventral view of the median lobe (100×); and 6, ventral view of internal sac spines (100×).

Genitalia: Aedeagus moderately sclerotized. Tegmen rather short, apex truncate, large robust setae extending from lateral margins, sensillar area present near apical margin (Fig. 4). Median lobe with distinctly bifid apex (Fig. 5). Internal sac with two large curved spines present (Fig. 6).

Female.—Unknown.

Diagnosis.—This is the only known species of *Psilotus* that is distinctly bicolored, the head, scutellum and pronotum being reddish orange and the elytra a griseous black with metallic blue sheen. The mandibles are unique in having a large medially projecting tooth that is similar in size to the apical tooth. The glabrous condition of the pronotal disc is known from only one other species, *P. levis* Grouvelle, which is much smaller at only 5 mm in length and not bicolored. The above combination of external characters as well as the large impressed region of the head, the well-armored meso- and metatibiae, the ventrally protruding mesosternum, produced apex of the hypopygidium, almost completely glabrous dorsum, and the suite of surface punctation given above, easily differentiate this species from others in the genus. The male genitalia also provide excellent characters for species delimitation, including the development of the internal sac spines, the truncate tegmen

apex, the distribution of setae on the tegmen, and the degree of indentation of the tegmen apex.

Etymology.—The species epithet is derived from the notably bicolored dorsal habitus.

Distribution.—The species is known only from the type locality in central Peru (Huanuco Province) on the eastern slope of the Cordillera Central of the Andes Mountains. Coordinates for Carpish Pass are 9°42′S, 76°04′W, and those for Chinchao are 9°42′S, 79°09′W (latitude/longitude coordinates source: Geographic Names Database of the National Imagery & Mapping Agency at: http://gnpswww.nima.mil/geonames/GNS/index/jsp.).

Mandible Morphology

Sexual dimorphism of the mandibles is evident in all members of *Psilotus*. Males have elaborate modification of both the size and shape. Besides the overall size of the mandibles in comparison to the overall width and length of the head, other key features are noticeably useful for delimiting species within the genus. Descriptors (and abbreviations) for each of the key mandibular features are shown in Figs. 2–3. The development of the medial tooth (MT) and the medial keel (MK) are the most distinguishing mandible characters at the species level. In *P. bicolor*, the median tooth is extremely well developed, being almost as long and robust as the apical tooth (AT), whereas the median keel is less developed. However, these two traits do not appear to be negatively correlated, as both can be reduced and/or developed depending on the species. The inner medial ledge (IML) of *P. bicolor* is more developed than in any other *Psilotus* species, and the lateral basal excavation (LBE) is also well developed for a *Psilotus* species. The above combination of mandibular characters, in their varied degrees of development, are all useful for defining species in the genus.

New Distribution Records

Until now, distribution records for *Psilotus* were known from scattered records by Erichson (1843), Reitter (1875), Grouvelle (1896, 1913), and Sharp (1901). Blackwelder (1945) compiled a list of country records for the known species of *Psilotus* in his catalog; however, no documentation exists of specific locality records. The records below document new country records, new records within countries, and significant range extensions for three species.

Psilotus atratus Reitter.—This species was previously known to have a mainly Central American distribution from Mexico and Nicaragua to Panama. New records: (A) July 23, 1957; Golfito, Costa Rica; Truxal & Menke. (B) COSTA RICA: Alajuela; E.B. San Ramon, R.B. San Ramon; 27 km N. & 8 km W. San Ramon, 810 m; 10°13′4″N, 84°35′46″W; 8 JUL 2000, J. Ashe, R. Brooks, Z. Falin; ex: flight intercept trap. (C) HONDURAS: Cortéz; Yojoa Lake, Deer Island; 670 m, 22–26 June 1994; 14°55′N, 87°58′W; J. Ashe, R. Brooks; ex: flight intercept trap. (D) COSTA RICA: San José/Cartago; km.45, Int. Amer. Hwy.; 6 km. N.E. El Empalme, 1975 m; 9°45′0″N, 83°58′30″W; 8–26 JUN 1997, S&J Peck; ex: flight intercept trap. (E) COSTA RICA: Guanacaste; Patilla Biological Station, 610 m; 10°59′22″N, 85°25′33″W; 13–15 JUL 2000, J. Ashe, R. Brooks, Z. Falin; ex: flight intercept trap. (F) COSTA RICA: Puntarenas; Wilson Botanical Garden; Las Cruces Biol. Stn.; 1200 m, 27 May 1993, J.S. & A.K. Ashe, ex. F.I.T. (G) COSTA RICA: Puntarenas; Prv., Monteverde; June 5–7, 1983; J. E. Wappes.

More complete records from Nicaragua and Panama include the following: (A) NICARAGUA: Rio San Juan Dept.; 60 km SE San Carlos, Refugio; Bartola, 100 m, 10°58.40′N, 84°20.30′W; 25-V-2002, R. Brooks, Z. Falin; S. Chatzimanolis, ex: on bark, downed; logs. (B) PANAMA: Chiriqui Prov.; La Fortuna, "Hydrolog.; Trail", 08°42′N, 82°14′W; 1050 m, 9–12-VI-1995;

J. Ashe & R. Brooks; ex: flight intercept trap. (C) PANAMA: Codé; 7.2 km NE. El Copé. 730 m; 08°37′N, 80°35′W; 20-V–7-VI-1995. J. Ashe; R. Brooks, FLT. Intercept Trap. (D) PANAMA: Colón; 15 km N jct. Escobal &; Piña Rds., ca 30 m; 02–11 JUN 1996: J. Ashe; R. Brooks; ex: flight intercept trap. (E) PANAMA: Chiríqui; Dist. Renacimiento, Hart-; mann Coffee Finca, Ojo; De Aqua, 1417 m, 15 June 1993: Steve Lingafelter; ex: flight intercept trap. (F) PANAMA: Chiríqui Prov.; 27.7 km W. Volcan; Hartmann's Finca; 08°45′N, 82°48′W; 1450 m, 14-VI-1995; J. Ashe & R. Brooks; ex: under bark. (G) PANAMA: Chiríqui Prov.; La Fortuna, "Cont. Divide; Trail", 08°46′N, 82°12′W; 1080 m, 21–23 May 1995; J. & A. Ashe; ex: flight intercept trap. (H) PANAMA: Darién, Cana; Biological Station, 550 m; 07°45′18″N, 77°41′6″W; 07–09 June 1996: J. Ashe; R. Brooks; ex: flight intercept trap. (I) PANAMA: Darién, Cana; Biological Station, 530 m; 07°45′18″N, 77°41′6″W; 09 June 1996: J. Ashe; R. Brooks; ex: misc. collecting. (J) PANAMA: Chiríqui Prv; Hartmann's Finca; 18–20 May 1996; Wappes, Huether & Morris. (K) PANAMA: Chiríqui Prv; Hartmann's Finca; 4–7-VII-1997; Wappes & Morris. (L) COSTA RICA: Puntarenas; Prv., Monteverde; June 5–7 1983; J.E. Wappes. (M) COSTA RICA: Puntarenas; Coto Brus, Est. Biol. Las Alturas; 8°47′N 82°57′N; in cut palm (Iriartea deltoidea [Palmae]); 5 April 2002, A. R. Cline coll.

Psilotus carbonicus Erichson.—Previously, this species was only reported from Brazil. The following are new country records: (A) BOLIVIA: Cochabamba; Cochabamba, 105 km E; Yungas, nr. Rio Carmen Mayu; (Cochabamba-; Villa Tunari Rd.); 17°8′51″S, 65°43′50″W, 1750 m; 1–6 FEB 1999: R. Hanley; ex: flight intercept trap. (B) BOLIVIA: Cochabamba; Cochabamba, 109 km E; Yungas, (Cochabamba-; Villa Tunari Rd.), 1480 m; 17°8′50″S, 65°42′29″W.; 8–12 FEB 1999: R. Hanley; ex: flight intercept trap. (C) PERU: Pasco Dept.; Yanachaga-Chemillen; National Park, 1600 m; 10°16′54″S, 75°32′36″W; 19–20 OCT 1999, R. Brooks; ex: flight intercept trap. (D) Uteuyacu, Tarma; Junin, PERU; MARCH 1948/F. Woytkowski; coll.—Donor; Wm. Procter. (E) VENEZUELA: Lara; Sanaré, 17.4 km SE; Yacambů N. P., 1510 m; 9°42′26″N, 69°34′34″W, 18 MAY–1 JUN 1998, J. Ashe, R. Brooks, R. Hanley; ex: flight intercept trap. (F) VENEZUELA: Lara; Sanaré, 10 km SE; Yacambů N. P., 1790 m; 17 MAY 1998, J. Ashe, R. Brooks, R. Hanley; ex: under bark. (G) VENEZUELA: Lara; Sanaré, 14.2 km SE; Yacambů N. P., 1650 m; 9°41′45″N, 69°36′48″W, 18 MAY–1 JUN 1998: J. Ashe, R. Brooks, R. Hanley; ex: flight intercept trap. (H) VENEZUELA: Aragua; Rancho Grande Biol. Stn.; 10°21′N, 67°41′W; 1450 m, 25–28 Feb. 1995; Robert W. Brooks; ex: flight intercept trap. (I) VENEZUELA: Aragua; Rancho Grande Biol. Stn., 1550 m; 10°21′38″N, 67°41′38″W; 12–14 MAY 1998: J. Ashe, R. Brooks, R. Hanley; ex: flight intercept trap. (J) VENEZUELA: Mérida; 42.4 km NW Mérida, near La Carbonera; 8°37′38″N, 74°21′10″W, 2360 m; ex: flight intercept trap. (K) VENEZUELA: Mérida; 42.4 km NW Mérida, near La Carbonera; 8°37′38″N, 74°21′10″W, 2360 m; ex: sifted flower fall. COLOMBIA: Paramo Purace, 20-X-1958, B. Malkin leg./15 km E. of Purace, Dept. Cuaca, 3000 m/under bark of log.

Psilotus cornutus (F.).—This is the most wide ranging species in the genus with known records from Honduras, Nicaragua, Panama, French Guiana, Brazil, and Argentina. The new record is a small range extension; however, it indicates that this species may extend into the Lesser Antilles. New record: TRINIDAD: N. Range; Arima-Blanchisseuse; Rd. mi. 10, V-11-1985, C.W. & L.B. O'Brien.

Other new records indicate greater range extension in South America: ECUADOR, Pastaza, Cusuimi, Rio Cusuimi, 150 km SE of Puyo, 15–31-V-1971, B. Malkin leg./ freshly fallen palm. PERU, Cuzco Dept.,

Consuelo, Manu rd. km 165, 11-X-1982/ under bark, L.E. Watrous and G. Mazurek.

Psilotus germaini Grouvelle.—This species known from Brazil and Bolivia. The following records are specific localities: (A) BOLIVIA: Cochabamba; Cochabamba, 117 km E; Yungas, (Cochabamba-; Villa Tunari Rd.), 1040 m; 17°6′32″S, 65°41′12″W; 6–8 FEB 1999; R. Hanley; ex: flight intercept trap. (B) BRAZIL: Rondônia, 62 km SW Ariquemes, nr; Fzda. Rancho Grande; 3–15-XII-1996, JE Eger; black light trap.

Psilotus ventralis Erichson.—Like *P. carbonicus*, *P. ventralis* previously was known only from Brazil. The following records extend this range into Peru: (A) Utcuyacu, Tarma; Junin, PERU; MARCH 1948/F. Woytkowski; coll.,—Donor; Wm. Procter. (B) Tingo, Maria; Huan, PERU; X-10-1946; Alt. 2200 ft./J.C. Pallister; Coll., Donor; Frank Johnson. (C) PERU: Madre de Oros; Pantiacollis Lodge, 5.5 km NW; El Mirador Trail, Alto Madre de; Dios River, 500 m; 12°39′10″S, 71°15′28″W; 23–26 OCT 2000, R. Brooks; ex: flight intercept trap. (D) FRENCH GUIANA: Emerald Jungle Village; junc. Rtes. N2 & D5; 15–18 APR 1999, G.B. Edwards; secondary forest, flight trap.

The following establishes a specific locality for this species in Brazil: Corupa; (Hansa Humbolt); S. Cath., Brazil; 1945/A. Maller, Coll.; Frank Johnson; Donor.

Conclusions

One new species of the endemic Neotropical nitidulid genus *Psilotus* is described. The new species increases the number of described *Psilotus* from ten to eleven. Distribution records for *P. atratus*, *P. carbonicus*, *P. cornutus*, *P. germaini*, and *P. ventralis* expand the ranges of these species, and demonstrates that species in this genus are not as isolated from each other as indicated by Blackwelder's checklist (1945). From these new records, it also appears that there are two "groups" of species, a Central American group consisting of *P. atratus*, *P. cornutus*, and *P. mimetes* Sharp, with *P. cornutus* extending southward and becoming sympatric with the South American group, which consists of *P. carbonicus*, *P. convexus* Grouvelle, *P. costatus* Blanchard, *P. germaini*, *P. levis* Grouvelle, *P. musophagus* Esch., *P. ventralis*, and the new species *P. bicolor*. These geographic ranges also give tentative support for *Psilotus* originating in South America and radiating into Central America and the Lesser Antilles following the migration of the Cocos plate as it passed between North and South America and after the subsequent formation of the Panamanian Isthmus in the late Tertiary (Rosen 1976). This conclusion is supported by 1) the lack of *Psilotus* in northern Mexico and 2) the lack of *Psilotus* from any of the Greater Antilles. Current research should further elucidate the above hypotheses. From the new records given and observations of other label data not provided, it is also evident that species of *Psilotus* are infrequently collected by active hand collecting but can be obtained in high numbers via passive methods such as flight intercept traps and blacklights. Finally, a suite of mandible features were given that demonstrate species level variation and which will be used in future work to produce a more natural classification of members of the genus.

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